Kuta Software - Infinite Geometry

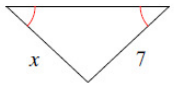
Name_____

Isosceles and Equilateral Triangles

Date_____ Period____

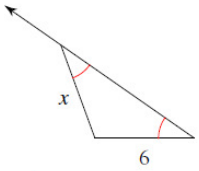
Find the value of *x*.

1)



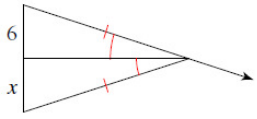
7

2)



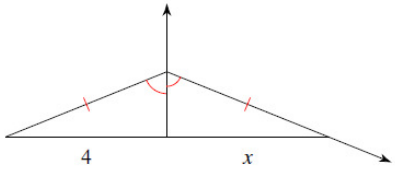
6

3)



6

4)



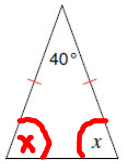
4

5)

$x+x+40=180$

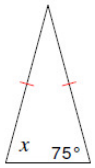
$2x=140$

$x=70$



70°

6)



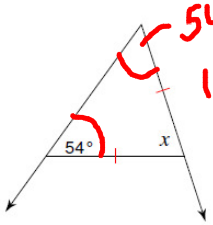
75°

7)

54

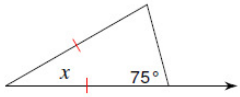
$108+x=180$

$x=72$



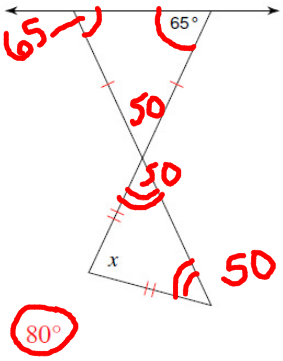
72°

8)



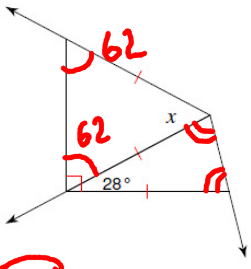
30°

9)



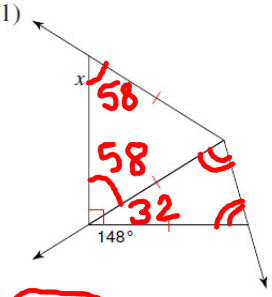
80°

10)



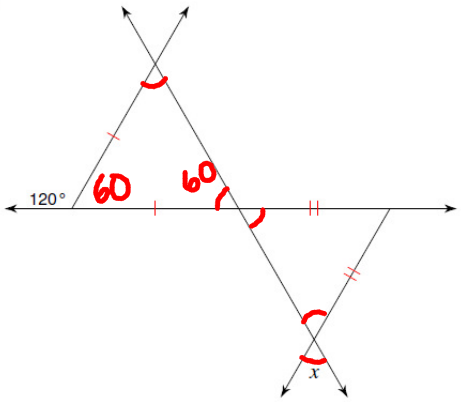
56°

11)



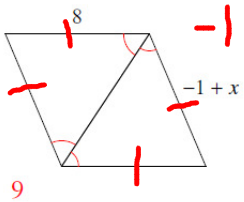
122°

12)



60°

13)

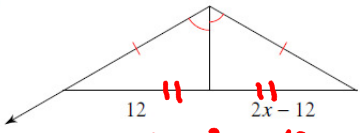


$-1+x=8$

$x=9$

9

14)

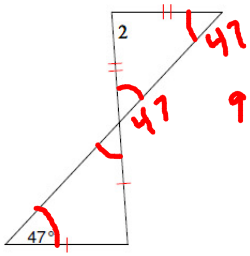


$x=$ 12

$12=2x-12$

$24=2x$

15) $m\angle 2 = x + 94$



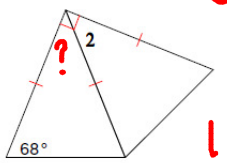
$94+x+94=180$

$188+x=180$

$x=-8$

−8

16) $m\angle 2 = 4x - 2$

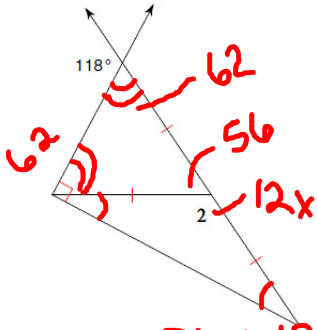


$90=8x-4$

$94=8x$

$11.75=x$

17) $m\angle 2 = 12x + 4$



10

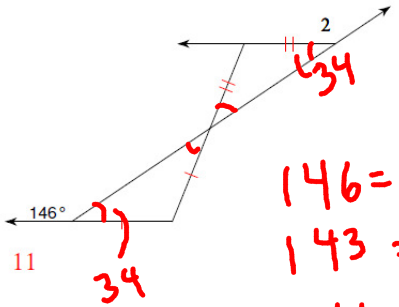
$56+12x+4=180$

$60+12x=180$

$12x=120$

$x=10$

18) $m\angle 2 = 13x + 3$



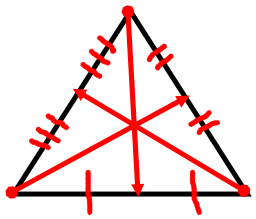
11

$146=13x+3$

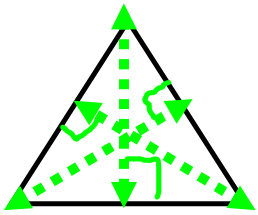
$143=13x$

$11=x$

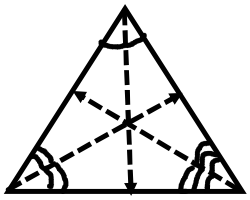
- A **median** is a segment that connects a vertex of a triangle to the midpoint of the opposite side.



- An **altitude** is a segment that has one endpoint at a vertex of a triangle and the other endpoint on the line containing the opposite side so that the altitude is perpendicular to that line.

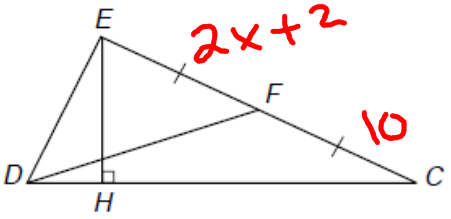


- An **angle bisector** of a triangle is a segment that bisects an angle of the triangle and has one endpoint at the vertex of that angle and the other endpoint on the side opposite that vertex.



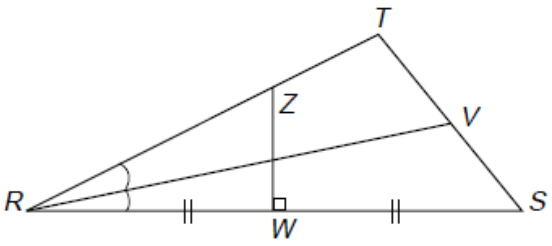
- A **perpendicular bisector** is a segment or line that passes through the midpoint of a side and is perpendicular to that side.

1



$\overline{DF}$ is a median of $\triangle DEC$.
$\overline{EH}$ is an altitude of $\triangle DEC$.

2



$\overline{RV}$ is an angle bisector of $\triangle RST$.
$\overline{WZ}$ is a perpendicular bisector of side $\overline{RS}$.